FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
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BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

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JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2014-15/ **Date: 25-02-2015**

1. TEST REPORT ON REINFORCEMENT STEEL :

Sub: Testing of Reinforcement Steel of diameter 10mm.
{Project*: Improvements to Drains and Providing Covering Slab at Narayanaswamy Road in Ward No.10 (Doddabommasandra)}
Ref.: Letter No. Testing/BUB/2014-15, dated 23-02-2015
Sample supplied to lab by: Sri.R.S.Thyagaraj, Contractor, Bangalore.
Report required for: Assistant Executive Engineer, Vidyaranayapura Sub-Division. BBMP, Bangalore.

TABLE – 1

SL No	Details	For 10mm	
		Test Results	Min Req as per IS 1786-2008
01	Observed diameter of bar	**10.0mm**	10.0mm
02	Observed Wt/m Length **Kg/m**	**0.621**	0.567
03	Proof stress/Yield stress, fy , **N/mm^2**	**556.0**	500.0
04	Bend/ Re bend Test	**Ok**	---
05	Percentage of Elongation, %	**20.40**	12.00
06	Ultimate Tensile Strength **N/mm^2**	**626.0**	545.0

*As furnished by Client.
The Results relate only to the items tested.

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~~BUB/CTE/2014-15/~~

1. TEST REPORT ON CEMENT:

Date: 27-02-2015

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Improvements to drains and Providing Covering slab at Narayanaswamy Road in Ward No. 10 (Doddabommasandra), Vidyaranyapura Sub division.}

Ref.: Letter No. Testing/BUB/2014-15, dated 18-02-2015

Sample supplied to lab by : Assistant Executive Engineer
Vidyaranyapura Sub-Division
BBMP, Bangalore.

Name of the Agency* : Sri R. S. Thyagaraj, Bangalore.

PHYSICAL TESTS ON CEMENT

Brand* : Birla Super
Grade * : 53
Type * : OPC
Date : 19-02-2015 to 26-02-2015

SL No	Name of Test	Results	Requirements as per
		Cement Sample	IS 12269-1987
1	Initial setting time	**158 min**	Shall not be less than 30 min
2	Final setting time	**260 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**2.35 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**1.40 mm**	Shall not be more than 10 mm
5	Compressive strength c) 3 days (average of three results) d) 7 days (average of three results)	**29.40 N/ Sq mm** **40.30 N/Sq mm**	Shall not be less than 27 N/Sqmm Shall not be less than 37N/Sqmm

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BUB/CTE/2014-15

1. TESTING OF COARSE AGGREGATES (40 mm):

Date: 23-02-2015

Sub: Testing of Coarse Aggregates.

{Project*: Improvements to drains and Providing Covering slab at Narayanaswamy Road in Ward No. 10 (Doddabommasandra), Vidyaranyapura Sub division.}

Ref.: Letter No. Testing/BUB/2014-15, dated 18-02-2015

Sample supplied to lab by : Assistant Executive Engineer
Vidyaranyapura Sub-Division
BBMP, Bangalore.

Name of the Agency* : Sri R. S. Thyagaraj, Bangalore.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing	
	40 mm Sample	*Single size*	*Graded*
40mm	96.20	85-100	95 – 100
20mm	39.10	0 -20	30- 70
10mm	17.80	0 -5	10- 35
4.75mm	Nil	------	0 - 5

TABLE 1 2 :

SL No	Test conducted	Sample No	Results	Requirements as per IS:383-1970 & Test Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2002)
1.	Flakiness Index	As above	15.80 %	Not to exceed 25 %
2.	Crushing value	----,,----	26.20 %	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

*As furnished by Client.

The Results relate only to the items tested.

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BUB/CE/2014-15

Date: 23-02-2015

1. TESTING OF FINE AGGREGATES:

Sub: Testing of Fine Aggregates.

{Project*: Improvements to drains and Providing Covering slab at Narayanaswamy Road in Ward No. 10 (Doddabommasandra), Vidyaranyapura Sub division.}

Ref.: Letter No. Testing/BUB/2014-15, dated 18-02-2015

Sample supplied to lab by : Assistant Executive Engineer
Vidyaranyapura Sub-Division
BBMP, Bangalore.

Name of the Agency* : Sri R. S. Thyagaraj, Bangalore.

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	97.45	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	83.05	60-95	75-100	85-100	
01.18	74.10	30-70	55-90	75-100	
600. mic	41.90	15-34	35-59	60-79	
300.mic	17.80	5-20	8-30	12-40	
150.mic	2.85	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	Requirements as Per IS. Specification IS :383-1970 (Reaffirmed 2002)
1	Silt Content	001	1.46 %	Not more than 8%
2.	Specific Gravity	----	2.56	-------

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BUB/CTE/2014-15 **DATE: 26-03-2015.**

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (28days Compressive Strength)
{Project*: Improvements to drains and Providing Covering slab at Narayanaswamy Road in Ward No. 10 (Doddabommasandra), Vidyaranyapura Sub division.}

Ref.: Letter No. Testing/BUB/2014-15, dated 25-03-2015

Sample supplied to lab by : Assistant Executive Engineer
Vidyaranyapura Sub-Division
BBMP, Bangalore.

Name of the Agency* : Sri R. S. Thyagaraj, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	25-02-15	25-03-15	28days	22500	500	22.22	**22.36**
	002	"	"	"	"	510	22.66	
	003	"	"	"	"	500	22.22	

*As Furnished by Client.

The Results relate only to the items tested.

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